



Yields of the Field Experiments 1981

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81/R/BE/10 Times of Applying Erynia - S. Beans

Rothamsted Research

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81/R/BE/10

SPRING BEANS

TIMES OF APPLYING ERYNIA

Object: To study the effects of rates and times of applying the aphid-pathogenic fungus *Erynia neoaphidis* (formerly *Entomophthora aphidis*) on the numbers of black aphids (*Aphis fabae*) and on the yield of s. beans - Fosters Corner.

Sponsor: N. Wilding.

Design: 3 randomised blocks of 7 plots.

Whole plot dimensions: 2.13 x 2.67.

Treatments:

APH CONT Chemical & biological aphid control:

NONE None

Pirimicarb at 0.14 kg in 340 l:

PIRIM E Applied early, on 5 June, 1981

PIRIM L Applied later, on 19 June

Erynia neoaphidis applied as a powder of mummified aphids:

E NE01 E Applied at 0.5 mg per plant early, on 5 June

E NE01 L Applied at 0.5 mg per plant later, on 18 June

E NE02 E Applied at 5.0 mg per plant early, on 5 June

E NE02 L Applied at 5.0 mg per plant later, on 18 June

NOTE: Basal irrigation was applied as follows (mm water):

22 June	12
2 July	12
7 July	6
8 July	6
10 July	12
15 July	12
28 July	<u>12</u>
Total	72

Basal applications: Manures: Chalk at 7.5 t. Weedkiller: Simazine at 1.2 kg in 250 l.

Seed: Minden, sown at 240 kg.

Cultivations, etc.: - Chalk applied: 3 Dec, 1980. Ploughed: 10 Dec. Spring-tine cultivated twice: 18 Feb, 1981. Seed sown: 20 Feb. Weedkiller applied: 8 Apr. Combine harvested: 8 Sept. Previous crops: W. wheat 1979, s. barley 1980.

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NOTES: (1) Visual estimates of aphid numbers were made weekly in June and July and samples of 50 live aphids per plot were examined for infection with *Erynia*, other fungi and parasites.

(2) Because of an error in weighing, one plot with treatment PIRIM L was lost.

An estimated value was used in the analysis.

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

APH CONT	NONE	PIRIM E	PIRIM L E	NEO1 E E	NEO1 L E	NEO2 E E	NEO2 L	MEAN
	3.60	5.15	4.77	3.70	2.99	3.90	3.13	3.89

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	APH CONT
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SED	0.537

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	11	0.657	16.9

GRAIN MEAN DM% 89.0

PLOT AREA HARVESTED 0.00024